REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Claims 15-21 have been canceled in favor of new claims 22-28. Support for the subject matter defined by the new claims is provided in claims 15-21 and Fig. 4 and its accompanying description in the specification.

Claims 15 and 17-21 were rejected, under 35 USC §103(a), as being unpatentable over Sunaga (US 6,381,233) in view of Amitay (US 3,735,266). Claim 16 was rejected, under 35 USC §103(a), as being unpatentable over Sunaga in view of Amitay and Ziv et al. (US 5,867,527). To the extent these rejections may be deemed applicable to new claims 22-28, the Applicant respectfully traverses.

For brevity, the Applicant incorporates by reference the discussion provided in the Response dated December 13, 2005, for the purpose of distinguishing claims 22-28, which recite similar subject matter to that recited in canceled claims 15-21. The discussion below addresses the comments provided in the Advisory Action to support the final rejections of claims 15-21.

The Advisory Action states that the final rejections rely on Amitay's disclosure only for providing the teaching of: (1) assigning different chips of a known (e.g., pilot) signal to each

of a plurality of subcarriers in the frequency axis direction and (2) assigning pilot signals to different subcarriers (see Advisory Action continuation sheet, last three sentences).

However, Amitay fails to teach anything related to spread spectrum communication. More specifically, Amitay does not teach spreading or despreading a signal within a frequency spectrum or converting a signal into spread spectrum chips. No form of the words "spread" and "chip" appear in Amitay's disclosure. Accordingly, it necessarily follows, *per force*, that Amitay cannot disclose assigning different chips of a spread pilot signal to each of a plurality of subcarriers in a frequency axis direction, as proposed in the Advisory Action.

The Advisory Action notes the Applicant's prior argument that Amitay does not disclose assigning pilot signals f1 and f2 to different subcarriers (see Advisory Action continuation sheet, penultimate sentence). In response, the Advisory Action proposes that Amitay does disclose that pilot signals are transmitted using different channels, or subcarriers, of the spectrum. The Applicant respectfully disagrees.

Although Amitay may refer to the two distinct carrier frequencies f1 and f2 as channels (see Amitay col. 2, lines 53-67), these two carrier frequencies or channels are not subcarriers. Instead, Amitay's Fig. 2 appears to illustrate them

as carriers. A skilled artisan would recognize that the carriers (e.g., f1 and f2) disclosed by Amitay and the OFDM subcarriers recited in Applicant's claims are not the same. The prefix "sub," meaning subordinate or subdivision, that distinguishes the words "carrier" and "subcarrier" provides a linguistic indicator of the difference, and generally, a subcarrier modulates a carrier. Amitay's disclosure does not teach OFDM subcarriers and does not contain the word subcarrier. Instead, Amitay discloses a baseband pilot signal that modulates a carrier. Accordingly, it necessarily follows that Amitay cannot disclose assigning pilot signals to different subcarriers, as proposed in the Advisory Action.

More importantly, Amitay does not disclose assigning distinct portions of a single signal (e.g., pilot signal) to different channels. Instead, Amitay discloses that the entirety of each individual signal is assigned to a single channel, as may be determined by inspection of Amitay's Fig. 1.

Claim 22 recites transmitting an OFDM signal that is created by breaking down a spread known-signal into individual chips and frequency division multiplexing the individual chips by assigning each chip to a different OFDM subcarrier. The Advisory Action proposes that Sunaga discloses spreading known signals that have been broken down into a number of spreading chips (see Advisory

Action continuation sheet, first sentence of second paragraph). However, the Final Rejection, and tacitly the Advisory Action, acknowledges that Sunaga does not disclose orthogonal frequency division multiplexing each chip of a spread signal to a different subcarrier of an orthogonal frequency division multiplexed (OFDM) signal (see Final Rejection page 4, lines 3-4). And for the reasons discussed above, Amitay also does not disclose orthogonal frequency division multiplexing each chip of a spread signal to a different subcarrier of an OFDM signal.

New claims 25-27 also recite transmitting an OFDM signal that is created by breaking down a spread known-signal into individual chips and frequency division multiplexing the individual chips by assigning each chip to a different OFDM subcarrier, as recited in claim 22. Claims 24-26 and 28 recite receiving and demodulating an OFDM signal that is created by breaking down a spread known-signal into individual chips and frequency division multiplexing the individual chips by assigning each chip to a different OFDM subcarrier. Due to this subject matter not taught or suggested by the applied art of record, allowance of claims 22, 24-28, and dependent claim 23 is warranted.

Regarding the Final Rejection's basis for combining the teachings of Sunaga and Amitay, the Applicant submits the following additional remarks.

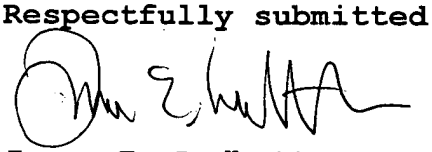
The Final Rejection proposes that it would have been obvious to a skilled artisan to modify Sunaga's system, in light of Amitay's teachings, so that the modified system would transmit a different chip of a spread pilot signal within each channel of a frequency diverse signal (see Final Rejection page 4, fourth paragraph). The Applicants note, however, that neither Sunaga nor Amitay disclose transmitting different portions of a signal (e.g., pilot or known signal) in different channels. As may be determined by inspection of Sunaga's system illustrated in Fig. 7, each signal source is assigned to a single distinct channel and no two portions of a signal generated by an individual source exist in different channels. Similarly, as may be determined by inspection of Amitay's system illustrated in Fig. 1, no part of the pilot signal generated by generator 12 exists in channel 2 and no part of the pilot signal generated by generator 22 exists in channel 1. Accordingly, it is submitted that the combined teachings of Sunaga and Amitay do not teach or suggest transmitting a different part of a signal within each channel of a diversity multiplexed signal. As a result, the applied references: (1) necessarily cannot teach the more limited

functionality of transmitting a different chip of a spread pilot signal within each channel of a frequency diverse signal and (2) do not provide the motivation to modify Sunaga's system to perform this function. Since each of new claims 22-28 recites generating or demodulating such a frequency diverse signal, they each distinguish over the combined teachings of Sunaga and Amitay for this independent reason.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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